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EXAMINER
WILSER, MICHAEL P

ART UNIT	PAPER NUMBER
2109	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

	Application No.	Applicant(s)
Office Action Summary	10/663,163	BENNETT ET AL.
	Examiner	Art Unit	
	Michael Wilser	2109	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>15 September 2003</u>.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-58* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-58* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>15 September 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-SB/08) Paper No(s)/Mail Date *12/13/04 & 7/5/05*.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____

DETAILED ACTION

1.   This action is in response to the original filing of September 15, 2003. Claims

1-58 are pending and have been considered below.

Drawings

2.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5)

because they include the following reference character(s) not mentioned in the

description: 700 in Figure 7A, 700 in Figure 7B, 800 in Figure 8A, 800 in Figure 8B, and

1004 in Figure 10.

3.   The drawings are objected to because both Figure 7A and 7B have the same

reference character 700. Since reference character 700 is not discussed in the

specification and the two figures are different it appears that the applicant has used

reference character 700 to represent two different features.

4.   The drawings are objected to because both Figure 8A and 8B have the same

reference character 800. Since reference character 800 is not discussed in the

specification and the two figures are different it appears that the applicant has used

reference character 800 to represent two different features.

5.   Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in

reply to the Office action to avoid abandonment of the application. Any amended

replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure

number of an amended drawing should not be labeled as "amended." If a drawing figure

is to be canceled, the appropriate figure must be removed from the replacement sheet,

and where necessary, the remaining figures must be renumbered and appropriate

changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering

of the remaining figures. Each drawing sheet submitted after the filing date of an

application must be labeled in the top margin as either "Replacement Sheet" or "New

Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next

Office action. The objection to the drawings will not be held in abeyance.

Specification

6.   The disclosure is objected to because of the following informalities: the examiner

notes the use of acronyms (e.g. I/O, CR0 PG, etc.) throughout the specification without

first including a description in plain text, as required.

Appropriate correction is required.

Claim Objections

7.   Claim 28 is objected to because of the following informalities: On page 41, line 5

the claim reads "VM state information state information". The examiner is interpreting

this as having meant to be "VM state information" and that the second use of state

information was a typo. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

9.   Claims 57 and 58 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

10.   Claim 57 recites the limitation "machine-readable medium" in line 1. There is

insufficient antecedent basis for this limitation in the claim. Claim 57 is dependent upon

Claim 53, which is a system, not a machine-readable medium. For purpose of

examination the examiner is interpreting Claim 57 as being dependent on Claim 56,

which is aimed at a machine-readable medium.

11.   Claim 58 recites the limitation "machine-readable medium" in line 1. There is

insufficient antecedent basis for this limitation in the claim. Claim 58 is dependent upon

Claim 53, which is a system, not a machine-readable medium. For purpose of

examination the examiner is interpreting Claim 57 as being dependent on Claim 56,

which is aimed at a machine-readable medium.

Claim Rejections - 35 USC § 101

12.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claims 56-58 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 56-58 are drawn to a machine-readable medium, which the applicant has defined in the specification (page 7, lines 18-20) to encompass one of an electrical, optical, acoustical, or propagated transmission signals. The Office considers propagated signals to be a form of energy. Energy is not a series of steps or acts and this is not a process. Energy is not a physical article or object and as such is not a machine or manufacture. Energy is not a combination of substances and therefore not a compilation of matter. Thus, a propagated transmission signal does not fall within any of the four categories of invention. Therefore, Claims 56-58 are not statutory.

Claim Rejections - 35 USC § 102

13.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

14.   Claims 1-8, 30-34, and 50-52 rejected under 35 U.S.C. 102(e) as being anticipated by van der Made (US 7,093,239).

Claims 1, 30 and 50: van der Made discloses a method, apparatus, and system

comprising:

      a. memory (column 6, lines 63-67 & column 7, lines 1-13);

      b. processor coupled to memory (column 6, lines 63-67 & column 7, lines 1-13);

      c. processor-managed resources coupled to the processor (column 6, lines 63-67

& column 7, lines 1-13);

      d. identifying a predefined behavior of a virtual machine monitor (VMM) with

respect to a virtual machine (VM) (column 5, lines 40-57); and

      e. utilizing processor-managed resources associated with the VM based on the

predefined behavior of the VMM (column 6, lines 58-61).

Claims 2, 31, and 51: van der Made discloses a method, apparatus, and system as in

Claims 1, 30, and 50 above, and further discloses that the predefined behavior of the

VMM is one of a first-time invocation, subsequent invocation, last invocation, or a

modification of content (column 5, lines 40-57).

Claims 3, 32, and 52: van der Made discloses a method, apparatus, and system as in

Claims 1, 30, and 50 above, and further discloses that identifying the predefined

behavior comprises receiving an indication of the predefined behavior (column 5, lines

40-57).

Claim 4: van der Made discloses a method as in Claim 3 above, and further discloses
that the indication is received via an executed instruction (column 8, lines 37-57).

Claim 5: van der Made discloses a method as in Claim 4 above, and further discloses
that the executed instruction is one of a launch instruction, resume instruction, an
access instruction, or a clear instruction (column 8, lines 37-57).

Claim: 6 and 33: van der Made discloses a method and apparatus as in Claims 1 and
30 above, and further discloses that identifying the predefined behavior comprises
determining behavior through logic within a processor (column 5, lines 40-57).

Claim 7: van der Made discloses a method as in Claim 6 above and further discloses
that the logic within the processor is prediction logic (column 9, lines 48-59).

Claims 8 and 34: van der Made discloses a method and apparatus as in Claims 1 and
30 above, and further discloses that the processor-managed resource is one of
allocation, de-allocation, verification of data, or loading of data (column 6, lines 58-66).

15.   Claims 9-11, 19-21, 35-36, 41-42, 53-55, and 56-58 rejected under 35
U.S.C. 102(b) as being anticipated by Ogi (US 5,361,375).

Claims 9, 35, and 56: Ogi discloses of a method, apparatus, and machine-readable medium comprising:

    a. determining that a transition from a virtual machine monitor (VMM) to a virtual machine (VM) is about to occur (column 3, lines 56-67 & column 4, lines 1-6);

    b. determining the type of transition (column 3, lines 56-67 & column 4, lines 1-6); and

    c. notifying a processor of the type of transition (column 4, lines 7-18).

Claims 10, 36, and 57: Ogi discloses a method, apparatus, and medium as in Claims 9, 35, and 56 above, and further discloses of executing an instruction associated with the type of transition (column 4, lines 7-18).

Claims 19, 41, and 53: Ogi discloses of a method, apparatus, and system comprising:

    a. memory to store guest information (column 1, lines 11-18);

    b. processor coupled to memory (column 1, lines 11-18);

    c. receiving from a virtual machine monitor (VMM a request to perform a transition from the VMM to a virtual machine (VM) (column 3, lines 56-67 & column 4, lines 1-6);

    d. indicating a type of transition (column 3, lines 56-67 & column 4, lines 1-6); and

    e. performing a set f operations according to the type of transition (column 4, lines 7-18).

Claims 20, 42, and 54: Ogi discloses a method, apparatus, and system as in Claims 19,

41, and 53 above, and further discloses identifying a VMM executing an instruction

associated with the type of transition (column 4, lines 7-18).

Claims 11, 21, 55, and 58: Ogi discloses of a method, system, and medium as in Claims

9, 19, 53, and 56 above, and further discloses that the transition is one of an initial

transfer or subsequent transfer to the VM (column 6, lines 49-60).

Claim Rejections - 35 USC § 103

16.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

17.   Claims 12-16, 18, 22-23, 37-40, and 43-44 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Ogi (US 5,361,375) in view of Shultz (US 4,916,608).

Claim 12: Ogi discloses a method as in Claim 11 above, but does not explicitly disclose

that in response to an initial transfer to allocate a memory region for the new virtual

machine controller and activating the new controller. However, Shultz discloses a

similar method in which in response to an initial transfer (column 1, lines 48-52) memory

is allocated to the region for a new controller (column 1, lines 33-47) and requesting the

controller to be activated (column 1, lines 48-52). Therefore, it would have been obvious

to one having ordinary skill in the art at the time of invention to allocate memory to the

region and request activation of the controller in Ogi. One would have been motivated to

allocate memory and activate control since there is no control structure in place since it

is the initial request for a VM from the system and therefore a control structure would

have to be initiated.

Claim 37: Ogi discloses an apparatus as in Claim 35 above, but does not explicitly

disclose that in response to an initial transfer to allocate a memory region for the new

virtual machine controller and activating the new controller or requesting the processor

to set execution control information and state information. However, Shultz discloses a

similar method in which in response to an initial transfer (column 1, lines 48-52) memory

is allocated to the region for a new controller (column 1, lines 33-47) and requesting the

controller to be activated (column 1, lines 48-52). Shultz also discloses that the

requesting processor sets the control and state information (column 5, lines 8-17 &

column 6, lines 58-66). Therefore, it would have been obvious to one having ordinary

skill in the art at the time of invention allocate memory to the region and request

activation of the controller in Ogi along with requesting the processor to set control and

state information. One would have been motivated to allocate memory and activate

control since there is no control structure in place since it is the initial request for a VM

from the system and therefore a control structure would have to be initiated. One would

have also been motivated to set the control and state information so that the apparatus

would have the information needed to begin running the VM for the current guest.

Claims 13 and 38: Ogi and Shultz disclose of a method and apparatus as in Claims 12

and 37 above, and Shultz further discloses of a load instruction pointer as an operand

(column 9, lines 33-60). Therefore, it would have been obvious to one having ordinary

skill in the art at the time of invention to have a load instruction pointer as an operand in

Ogi. One would have been motivated to have a load instruction pointer as an operand

so that the system running the virtual machine can keep track of where the control

structure resides in memory.

Claim 14: Ogi and Shultz disclose of a method as in Claim 12 above, and Shultz further

discloses that the processor requests initialization of the control structure (column 1,

lines 48-52). Therefore, it would have been obvious to one having ordinary skill in the

art at the time of invention to have the processor in Ogi request initialization of the

control structure. One would have been motivated to request initialization of the control

structure so that once a VM had been created for the guest the VM could be controlled

by the hosting system.

Claims 15 and 39: Ogi and Shultz disclose of a method and apparatus as in Claims 12

and 37 above, and Shultz further discloses of executing a clear instruction including the

pointer to the new control structure as an operand (column 9, lines 33-60). Therefore, it

would have been obvious to one having ordinary skill in the art at the time of invention

to have a clear instruction with a pointer as an operand in Ogi. One would have been

motivated to have a clear instruction with a pointer to the control structure so that when

the control structure is cleared the pointer is properly queued and in sync with the rest

of the VM.

Claim 16: Ogi and Shultz disclose a method as in Claim 12 above, and Shultz further

discloses requesting the processor to activate the control structure includes setting

control and state information (column 5, lines 8-17 & column 6, lines 58-66). Therefore,

it would have been obvious to one having ordinary skill in the art at the time of invention

to set control and state information upon activation of the control structure in Ogi. One

would have been motivated to set the control and state information when the control

structure was activated so that the control structure would know the current condition

and activity of the VM that it is controlling.

Claims 18 and 40: Ogi discloses a method and apparatus as in Claims 11 and 35

above, but does not explicitly disclose that upon a subsequent transfer that the

requesting processor updates the control structure. However, Shultz disclose a similar

method and apparatus that upon a subsequent transfer request (column 1, lines 33-47)

the processor updates the content of the control structure (column 1, lines 33-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time

of invention to update the control structure in Ogi in response to a subsequent transfer.

One would have been motivated to update the control structure so that upon the subsequent transfer request the control structure is able to handle the requests of the new VM which has now been put under its control.

Claims 22 and 43: Ogi discloses a method and apparatus as in Claims 19 and 41 above, but does not explicitly disclose that prior to receiving a request to perform a transition that a pointer is generated for the control structure of the VM from the VMM. However, Shultz discloses a similar method and apparatus where a pointer from the VMM to the control structure is generated upon a transition request (column 9, lines 33-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to generate a pointer to the new control structure upon transition in Ogi. One would have been motivated to create a pointer from the VMM to the control structure associated with the VM so that if another control structure is created the VMM can keep track of the current location and status of the control structures.

Claims 23 and 44: Ogi and Shultz disclose of a method and apparatus as in Claims 22 and 43 above, and Shultz further discloses that a pointer to the control structure is included as an operand of a load instruction (column 9, lines 33-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have the control structure pointer include an operand to the load instruction in Ogi. One would have been motivated to include an operand load instruction so that the pointer corresponds to the correct position in memory when a control structure loads.

18.   Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ogi (US

5,361,375) and Shultz (US 4,916,608) as applied to claim 16 above, and further in view

of Yoshida (US 5,408,617).

Claim 17: Ogi and Shultz disclose a method as in Claim 16 above, but do not explicitly

disclose that setting control and state information comprises executing a control

structure write instruction identifying a component to which data is to be written.

However, Yoshida discloses a similar method that executes a write instruction having

an operand that identifies a component to which data is to be written (column 4, lines

61-67 & column 5, lines 1-7). Therefore, it would have been obvious to one having

ordinary skill in the art at the time of invention to have identified the component to which

data is to be written in Ogi. One would have been motivated to identify the component

to be written to so that the control structure could process the write requests from the

virtual machine.

19.   Claims 24-29 and 45-49 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Ogi (US 5,361,375) and Shultz (US 4,916,608) as applied to claims

22 and 41 above, and further in view of Brelsford et al. (US 5,230,069).

Claim 24: Ogi and Shultz disclose a method as in Claim 22 above, and Shultz further

disclose that the type of transition is an initial transition to a virtual machine (column 1,

lines 48-52). However, Shultz does not explicitly disclose marking the control structure as cleared, determining that the control structure is cleared, and performing validation checks on state information. However, Brelsford discloses a similar method in which the control system is marked as cleared (column 3, lines 23-32), determining that the control structure is cleared (column 1, lines 64-68 and column 2, lines 1-7), and performing validation checks on state information (column 1, lines 64-68, & column 2, lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to mark and determine that the control structure is clear in Ogi along with validating the state information. One would have been motivated to mark and determine the control structure is clear and validate the current state information so that the new control structure is prepared to handle the new requests of the VM.

Claim 25: Ogi Shultz, and Brelsford disclose a method as in Claim 24 above, and Shultz further discloses of executing a clear instruction including the pointer to the new control structure as an operand (column 9, lines 33-60). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have a clear instruction with a pointer as an operand in Ogi. One would have been motivated to have a clear instruction with a pointer to the control structure so that when the control structure is cleared the pointer is properly queued and in sink with the rest of the VM.

Claim 26: Ogi and Shultz disclose a method as in Claim 22 above, but do not explicitly

disclose of allocating on-processor cache storage for the control structure and cache

storage during operation. However, Brelsford discloses a similar method in which on-

processor cache storage is performed (column 1, lines 64-68 & column 2, lines 1-7 &

25-44). Therefore, it would have been obvious to one having ordinary skill in the art at

the time of invention to have allocated on-processor caching in Ogi. One would have

been motivated to use on-processor caching so that as the control structure performs it

duties it can pull in and send out information to accomplish the tasks of the VM.

Claim 27: Ogi and Shultz disclose a method as in Claim 22 above, and Shultz further

discloses that the transfer is a subsequent transfer (column 1, lines 33-47). However,

Shultz does not explicitly disclose that a plurality of validation checks is performed on

the state information. However, Brelsford discloses a similar method in which a plurality

of validation checks is performed on the state information (column 1, lines 64-68 &

column 2, lines 1-7 & 25-44). Therefore, it would have been obvious to one having

ordinary skill in the art at the time of invention to perform a plurality of validation checks

of state information in Ogi. One would have been motivated to perform a plurality of

state information checks so that the state of information within the control structure is

known and therefore whether the structure is ready to be cleared or not.

Claim 28: Ogi, Shultz and Brelsford disclose a method as in Claim 27 above, and

Brelsford further discloses of determining whether state information in the on-processor

cache has been modified (column 1, lines 64-68, & column 2 lines 1-7 & 25-44) and

validating the state information element if it has been modified (column 1, lines 64-68, &

column 2 lines 1-7 & 25-44). Therefore, it would have been obvious to one having

ordinary skill in the art at the time of invention to determine whether the state

information had been modified and to validate the modified information in Ogi. One

would have been motivated to determine whether there was a modification and verify

the information so that the correct state information is contained within the virtual

machine.

Claim 29: Ogi, Shultz and Brelsford disclose a method as in Claim 27 above, and

Brelsford further discloses of determining whether state information is contained in the

on-processor cache (column 1, lines 64-68, & column 2 lines 1-7 & 25-44) and

validating the state information element if it has been modified (column 1, lines 64-68, &

column 2 lines 1-7 & 25-44). Therefore, it would have been obvious to one having

ordinary skill in the art at the time of invention to determine whether the state

information is contained and to validate the modified information in Ogi. One would have

been motivated to determine whether the information was contained and verify the

information so that the correct state information is contained within the virtual machine.

Claim 45: Ogi discloses an apparatus as in Claim 41 above, but does not explicitly

disclose that the response is a response to an initial transfer. However, Shultz discloses

a similar apparatus that the type of transition is an initial transition to a virtual machine

(column 1, lines 48-52). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have the transition be an initial transition in Ogi. One would have been motivated to have the transition be an initial transition since upon the first request for a virtual machine a control structure would be needed to control the features of the machine.

However, Ogi and Shultz do not explicitly disclose determining that the control structure is cleared, and performing validation checks on state information. However, Brelsford discloses a similar apparatus that determines that the control structure is cleared (column 1, lines 64-68 and column 2, lines 1-7), and performing validation checks on state information (column 1, lines 64-68, & column 2, lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to determine that the control structure is clear in Ogi along with validating the state information. One would have been motivated to determine the control structure is clear and validate the current state information so that the new control structure is prepared to handle the new requests of the VM.

Claim 46: Ogi, Shultz, and Brelsford disclose of an apparatus as in Claim 45 above, and Brelsford further discloses that on-processor cache storage is performed (column 1, lines 64-68 & column 2, lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to have allocated on-processor caching in Ogi. One would have been motivated to use on-processor caching

so that as the control structure performs it duties it can pull in and send out information to accomplish the tasks of the VM.

Claim 47: Ogi, Shultz and Brelsford discloses of an apparatus as in Claim 45 above, and Brelsford further discloses performing a plurality of validation checks on the state information (column 1, lines 64-68 & column 2, lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to perform a plurality of validation checks of state information in Ogi. One would have been motivated to perform a plurality of state information checks so that the state of information within the control structure is known and therefore whether the structure is ready to be cleared or not.

Claim 48: Ogi, Shultz and Brelsford disclose of an apparatus as in Claim 47 above, and Brelsford further discloses of determining whether state information in the on-processor cache has been modified (column 1, lines 64-68, & column 2 lines 1-7 & 25-44) and validating the state information element if it has been modified (column 1, lines 64-68, & column 2 lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to determine whether the state information had been modified and to validate the modified information in Ogi. One would have been motivated to determine whether there was a modification and verify the information so that the correct state information is contained within the virtual machine.

Claim 49: Ogi, Shultz and Brelsford disclose of an apparatus as in Claim 48 above, and Brelsford further discloses of determining whether state information is contained in the on-processor cache (column 1, lines 64-68, & column 2 lines 1-7 & 25-44) and validating the state information element if it has been modified (column 1, lines 64-68, & column 2 lines 1-7 & 25-44). Therefore, it would have been obvious to one having ordinary skill in the art at the time of invention to determine whether the state information is contained and to validate the modified information in Ogi. One would have been motivated to determine whether the information was contained and verify the information so that the correct state information is contained within the virtual machine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Wilser whose telephone number is (571) 270-1689. The examiner can normally be reached on Mon-Fri 7:30-5:00 EST (Alt Fridays Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Myhre can be reached on (571) 270-1065. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

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MPW

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